

# SPECIFICATIONS CAMAC Model 2282B 48 CHANNEL ADC

Input Sensing:	Charge (current integrating).
Full Scale:	- 1000 pC $\pm$ 10%.
Gain:	- 4 counts/pC $\pm$ 10%
Input Impedance:	50 $\Omega$ $\pm$ 5%; 0 to - 50 mA DC.
Input Protection:	$\pm$ 50 V for 1 $\mu$ sec transients.
Input Limitations:	Maximum voltage for linear response, - 1.5 V. For 3 V maximum input linearity is degraded to typically $\pm$ (1% of reading + 0.25 pC).
Common Mode Properties:	Common Mode Rejection Ratio >50 dB for $\pm$ 200 mV (DC to 1 kHz).
Integral Linearity:	Typically $\pm$ (0.1% of reading of + 0.25 pC); worst case $\pm$ (0.25% of reading + 0.5 pC) for signals of slew rate $\leq$ 2 mA/nsec. For signals of slew rate 4 mA/nsec linearity is degraded to typically $\pm$ (1% of reading + 0.25 pC).
Differential Linearity:	Typically less than 5%.
Residual Pedestal:	Typically 125 counts (subtracted from data by processor) for a gate width of 100 nsec and high source impedance; 250 counts for 500 nsec gate width.
Pedestal-Gate Width Coefficient:	< $\pm$ 50 fC/nsec for gate widths > 200 nsec plus 25 fC/nsec if wide gate jumper option is selected.
Temperature Coefficient:	Typically (- 0.05% of reading $\pm$ 0.2 counts)/ $^{\circ}$ C for a gate width of $\sim$ 1200 nsec. Coefficient may vary slightly for other gate widths.
Long-Term Stability:	$\pm$ (0.25% of reading + 0.5 pC)/week at constant temperature and voltage.
Operating Temperature:	0 $^{\circ}$ to 40 $^{\circ}$ C.
ADC Resolution:	12 bits.
Conversion Time:	1 msec nominal + 35 $\mu$ sec per ADC module.
ADC Isolation:	> 60 dB, including the effects of one input connector.
Gate Input:	One per module, rear panel input driven from nonregenerative driver (via ASB) in 2280 System Processor module.
Gate Width:	50 nsec to 5 $\mu$ sec (10 $\mu$ sec if wide gate jumper option is implemented). In operation with wide gates, ADC conversion gain depends on pulse position in ADC gate time. This dependence is typically 0.6%/ $\mu$ sec.
Gate Timing:	The gate input to the 2280 System Processor must precede the analog inputs by $\geq$ 50 nsec.
Fast Clear:	May be executed any time within 10 $\mu$ sec of a gate. Settles to within 1 count in < 2 $\mu$ sec.
Digital Clear:	A digital clear is automatically generated by a fast clear $\geq$ 10 $\mu$ sec after the gate; requires 3 $\mu$ sec to settle.
Test Feature:	Exercised by 2280 System Processor. The charge pulse applied to all channels is proportional to the DC level at the Test Level Input (0 to + 10 V). Channel-to-channel matching of the constant of proportionality is < $\pm$ 1%. For 0.0 V Test Level Input each channel's test input is a fixed value within the range 0 to 10 pC. Requires a gate width of $\geq$ 1 $\mu$ sec. For further discussion see Application Note 1.
Analog Outputs:	Current outputs proportional to input (0.5 mA/mA). Risettime > 25 nsec, 10-90%. The three output buffers on rear panel are factory wired to sum three groups of 16 channels (0-15, 16-31, 32-47). Gate feedthrough is typically 80 mV (into 50 $\Omega$ ) for 16 channels, recovered in approximately 120 nsec. Maximum output current for any buffer is 90 mA.
Readout and Control:	Requires one Model 2280/82A Processor per CAMAC crate. LeCroy 2282B's are compatible with 2282A's in the same crate.
Packaging:	No. 1 RF-shielded CAMAC module conforming to ESONE Report EUR 4100 and IEEE Standard 583.
Power Requirement:	770 mA at + 6 V      160 mA at + 24 V (Plus 1.5 times average input current) 750 mA at - 6 V      0 at - 24 V
Analog Input Connector:	AMP 102550-1 bulkhead-mounting 25-pair connector. Mates with AMP 2-226651-5 cable connector (AMP-latch series).
Analog Input Cable:	LeCroy Model DK25/50-Length. Includes AMP 2-226298-5 twenty-five signal ribbon coaxial cable with termination by AMP 2-226651-5 connectors at both ends (AMP-latch series), plus one AMP 102550-1 one bulkhead-mounting 25-pair connector.

SPECIFICATIONS SUBJECT TO CHANGE